

REMARKS

The courtesies extended to the undersigned by Examiner Tran during the telephone interview held December 1, 2003 are acknowledged and appreciated. Applicants and the undersigned have carefully reviewed the Final Office Action of September 2, 2003 in the subject patent application, together with the prior art cited and relied on by the Examiner in the rejection of the claims. In response, Claim 9 has been amended a second time, Claim 16 has been amended to correct a typing error, and several additional claims have been cancelled. It is believed that this Amendment After Final Rejection is a substantial effort to place the subject application in condition for allowance, without raising any new issues and without requiring additional searching by the Examiner. Reexamination and reconsideration of the application, and allowance of the claims is respectfully requested.

In the Final Office Action, the Examiner objected to claim 17 under 35 U.S.C. 112, second paragraph, as being indefinite. Claim 17 has been cancelled. It is believed that the Examiner's rejection is rendered moot by the cancellation of this claim.

Claims 9, 11, 12 and 16 were rejected under 35 U.S.C. 102(b) as being anticipated by DE 2754179 A1 to Pflaum. Claims 10 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pflaum. As discussed with Examiner Tran by telephone, and for the reasons to be presented below, it is believed that the claims currently pending in the subject application are patentable over the Pflaum reference.

Initially, while discussing the subject application with Examiner Tran, it was learned that the Substitute Specification and the marked-up copy of the verified translation, which

were filed on April 19, 2002 as part of the Preliminary Amendment, are not in the Patent Office file. A copy of each is enclosed. Also enclosed is a copy of the date-stamped receipt card as evidence of their filing.

Referring primarily to Fig. 13 of the drawings filed in the subject application, there is shown a longitudinal folding device that includes a longitudinal folding hopper, generally at 18, as identified in Figs. 1 and 2. The longitudinal folding hopper 18 includes a hopper plate 21, hopper flanks 22 and 23, and hopper flank plates 55 and 65. This structure is described at paragraphs 64 and 76 of the Substitute Specification. The longitudinal folding hopper receives paper webs that have been electrically interlocked together in a paper web train. This interlocking is discussed at paragraphs 126 and 147 of the Substitute Specification.

A hopper guide device 273 includes an upper hopper cover plate 274 and left and right guide devices 61 and 62. The hopper guide device 273 encloses the longitudinal folding hopper, as is all discussed at paragraph 85 of the Substitute Specification.

A high voltage source having different polarities is connected to the longitudinal folding hopper and to the hopper guide. The different polarities applied to the hopper and to the hopper guide are depicted in Fig. 13. The different polarities are matched to the charges applied to the adjacent webs of the electrically interlocked paper web train for supporting the train between the folding hopper and the hopper guide. This is discussed most clearly in paragraph 149 of the Substitute Specification.

The hopper guide device is supported electrically insulated from the machine frame.

This is accomplished by the use of suitable electrical insulating means.

The result is a longitudinal folding device through which a paper web train, which is comprised of a plurality of electrically interlocked paper webs, can pass without disruption of the individual webs in the train. The paper webs are formed into an electrically interlocked train by the application of opposing charges to opposite outer webs of the chain. The attractive forces between the appropriately charged outer webs interlocks the webs. The application of charges to the longitudinal folding hopper and to the hopper guide device, which charges match those applied to the webs adjacent the hopper and the hopper guide are effective in maintaining the electrical interlock of the web train and in supporting the web train between the upper and the hopper guide. As seen in Fig. 13, the hopper carries a negative charge and the guide device carries a positive charge. The web train would be charged so that the web adjacent the hopper would also have a negative charge and the web adjacent the hopper guide device would have a positive charge. These matching charges thus support the electrically interlocked paper web train as it passes through the longitudinal folding device.

In very marked contrast, the Pflaum device shows a processing station that is located after a printing press. A plurality of webs 1 enter the processing device, as seen in Fig. 1. These webs initially pass by discharge electrodes 6 which remove static charges from the webs. The edges of the webs then pass by negatively charged electrodes 2 and positively charged electrodes 3. These electrodes 2 and 3 are operated in a periodic fashion so that only certain lengths of each web edge are charged. These oppositely

charged web edge sections adhere to each other. The location of these sections is selected so that when the plurality of webs 1 pass through a transverse cutting device that is comprised of rollers 7 and 8, the webs will not separate in the areas adjacent the resulting transverse cut.

In Fig. 2 of Pflaum there is depicted a generally similar arrangement. Webs 10, 11 and 12 initially pass between discharge electrodes 22 and 23. These again remove charges from at least the edges of the webs. The webs 10, 11 and 12 then pass over calendar rolls 13, 14 and 15, respectively. One of these calendar rolls is shown in Fig. 3. It includes electrode cylinders 26 and 27 that are separated by insulating material 28. The electrode cylinders 26 and 27 impart charges to the web edge portions which they contact. As was the case with the embodiment depicted in Fig. 1, these charges are imparted to the respective web edges only periodically.

The three webs 10, 11 and 12, now with spaced charged edge lengths, pass over a former 17. The former 17 is essentially a triangular plate. As the webs pass over the former, they are folded longitudinally. The oppositely charged web edge sections are now placed into contact and are attracted together. This area of attraction is situated in the areas of the web which will be transversely cut by the transverse cutting device that includes the rollers 20 and 21.

It is readily apparent that the subject invention, as recited in currently amended claim 9, is not anticipated by, or rendered obvious over the Pflaum reference. Claim 9 recites a longitudinal folding hopper that includes a hopper insertion plate and first and

second hopper flank plates. The inclusion of this structural recitation in claim 9 is believed not to raise new issues. Claim 9, as filed, indicated that the folding hopper included flank. It also recited that the folding hopper was enclosed by the paper deflection device.

Pflaum does not show or suggest such a structure. In Pflaum, the former 17 is merely a triangular plate.

Claim 9, as amended, recites that the folding hopper receives paper webs that are electrically interlocked. That language is found in Claim 16 which includes a recitation of means for electrically interlocking the paper webs.

Claim 9 has been amended to change the term "paper deflection" to "hopper guide". This is believed to place the claim language more in agreement with the language of the Substitute Specification, as set forth in paragraph 85 noted above. The structure of the hopper device has been set forth in more specific form. This again is believed not to raise any new issues since the claim initially recited that the paper deflection device, now the hopper guide device, enclosed the longitudinal folding hopper in a shell-like manner.

Pflaum clearly does not teach or suggest any structure that would form the hopper guide device. There is nothing spaced from and enclosing the former 17 of Pflaum. The various rollers 13-16 and 18-21 do not enclose the former.

Claim 9 has further been amended to add the language of dependent claims 10 and 17. The high voltage source 15 is connected to the folding hopper and to the hopper guide, with different polarities for each. Thus each has a different polarity imparted to it. These polarities are the same as, or match the polarities on the paper webs, which are part

of the electrically interlocked paper web train, and which are adjacent the folding hopper and the hopper guide. This language, as indicated above, was previously presented in dependent claims 10 and 17. The arrangement of the electrical charges imparted to the folding hopper and to the hopper guide support the paper webs between the hopper and hopper guide, as recited in now cancelled claim 17.

Pflaum does not teach or suggest a similar structure. There is no teaching in Pflaum of any high voltage source connected to the former 17. Pflaum does not teach or suggest a hopper guide device that encloses the folding hopper. There is no teaching or suggestion of an opposing polarity charge applied to such a hopper guide. Further, Pflaum teaches the application of charges to sections of web edges only to cause the web edges to attract. This attraction is limited to certain areas and only for the purpose of preventing edge separation adjacent transverse cuts. There is no teaching or suggestion in Pflaum that the different polarities applied to the folding hopper and to the hopper guide are for the purpose of supporting the electrically interlocked paper web train between the folding hopper and the hopper guide.

For these reasons, it is believed that claim 9, as currently amended, is not anticipated, or rendered obvious to one of skill in the art, by the Pflaum reference. It is also believed, as discussed above, that currently amended Claim 9 does not add new features, that it does not require additional searching by the Examiner, and that it places the application in condition for allowance.

Claim 10 has been cancelled. It's language has been added to believed allowable

Claim 9. Claims 11 and 12 have been carried forward. Claim 16 has been amended to correct a typographical error. Claim 16 recites means for electrically interlocking the webs. Claim 9 recites that they are interlocked but does not include means to accomplish that result. Claim 17 has been cancelled. It's language has also been incorporated into currently amended Claim 9. As discussed above, Pflaum does not disclose, or suggest, a high tension source connected to the longitudinal folding hopper with one polarity and connected to the hopper guide with the opposite polarity. Further Pflaum does not teach or suggest use of these opposite polarities to support the web.

The various other prior art references of record have been reviewed. Since they were not relied on in the rejection of the claims, no further discussion thereof is required.


SUMMARY

Claims 9 and 16 have been amended. Claims 10 and 17 have been cancelled. Claims 11 and 12 are carried forward. Claims 1-8 and 13-15 were previously cancelled. A copy of the previously filed Substitute Specification, and of the marked-up copy of the verified translation, are enclosed. It is believed that the claims now pending in the subject application are patentable over the references cited and relied on by the Examiner. Allowance of the claims, and passage of the application to issue is respectfully requested.

Respectfully submitted,

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